

IN THE ABSTRACT OF THE DISCLOSURE:

Please replace the original abstract with the following new abstract:

ABSTRACT OF THE DISCLOSURE

A plasma processing method using a spectroscopic processing unit. The method includes separating spectrally plasma radiation emitted from a vacuum process chamber into component spectra, converting the component spectra into a time series of analogue electric signals composed of different wavelength components at a predetermined period, adding together analogue signals of the different wavelength components, converting a plurality of added signals into digital quantities on a predetermined-period basis, digitally adding together the plurality of added and converted signals a plural number of times on a plural-signal basis, determining discriminatively an end point of a predetermined plasma process on the basis of a signal resulting from the digital addition, and terminating the predetermined plasma process.